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ABSTRACT

This volume is the pilot issue of the "Transforming Libraries" series, a quarterly subseries of SPEC (the Systems and Procedures Exchange Center of the Association of Research Libraries). Each issue will focus on a different application or aspect of library technology. This issue discusses electronic reserves. It is divided into five sections. The first section contains an introduction focusing on disadvantages of paper-based reserve systems and capabilities of electronic reserve systems. The second section provides answers to key questions for library planning, including who will build the system, who will manage the work, which access restrictions will be implemented, how copyright will be handled, and what it will cost. The third section presents reports of what several academic libraries and library product vendors are doing in the area of electronic reserves. The fourth section discusses future trends and the final section addresses other trends in library systems. (AEF)

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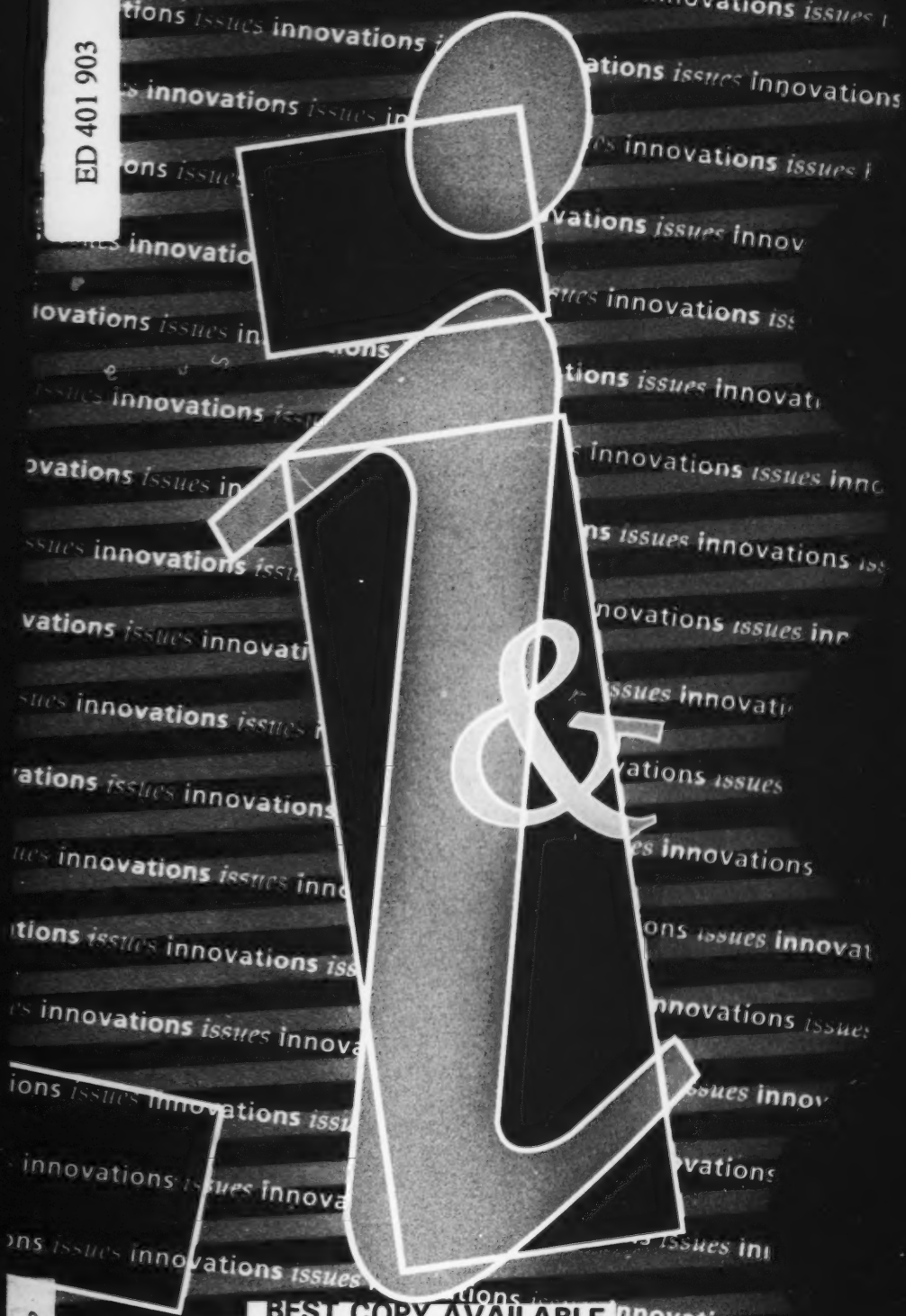

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Electronic Reserves

Transforming Libraries
Issues and Innovations in

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<URL:http://arl.cni.org/transform/>

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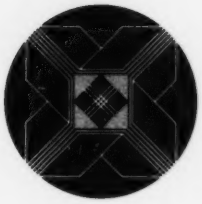

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Transforming Libraries *Issues and Innovations in* **Electronic Reserves**

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A Word About Transforming Libraries

THIS VOLUME of SPEC comes to you as the pilot issue of the *Transforming Libraries* series, ARL's newest means of bringing you information about developments in member libraries and beyond. ARL will publish this subseries of SPEC four times a year, with each volume focusing on a different application or aspect of library technology. As the publication evolves, it will eventually be issued under its own title as a separate publication series.

The purpose of the *Transforming Libraries* series is to encourage innovative activity in subscriber libraries and to put subscribers in touch with people who are leading technological change in libraries all over North America.

Transforming Libraries will take a very different approach from SPEC, which provides a survey-based summary of current operational practices in ARL member libraries. It will focus on how libraries are using technology to transform services and operations. In an attempt to be timely and up-to-date, *Transforming Libraries* will take a reportorial approach to its topics, seeking out libraries that are trying new applications of technology and bringing to you their experiences while they are still innovative. Finally, *Transforming Libraries* will go beyond the ARL membership; in this issue, for example, there are reports of innovations in non-ARL as well as ARL libraries, and there are reports of recent vendor developments. (Note: reports on vendors do not constitute endorsement of their products and services by the Association of Research Libraries.)

One important feature of the *Transforming Libraries* series will be its presence on the internet <URL:http://arl.cni.org/transform/>. Each issue will contain a direction to a website, which will be managed by a guest Editorial Advisor. Whereas *SPEC Kits*

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provide documentation in print, this site will be a place to find both documentation and links to sites related to the technology featured in the particular issue. It will also be a site where readers can advance their own ideas and reactions.

Future topics under consideration for this series include: distance education, geographic information systems (GIS), and licensing. We invite readers and libraries to provide feedback on this series and to inform us of their innovative practices.

The first issue of *Transforming Libraries* focuses on electronic reserves, a topic of growing interest to academic libraries and of potential interest to all libraries. The issue was researched and written by Transforming Libraries Editor, George Soete. The Editorial Advisor for this issue is Jeff Rosedale, Head, Access and Technical Support, Lehman/Social Work Library, Columbia University. Jeff is also the manager of the ARL Listserv on Electronic Reserves, which you can access at <arl-ereserve@cni.org>.

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Technology Drives Service Improvements

PERHAPS NO RECENT development in library services so clearly epitomizes the triumph of technology over the barriers of time and space as electronic reserves. Not many years ago, virtually all academic libraries were still struggling with exclusively paper-based reserve systems. Paper-based systems are still maintained, even by libraries that offer electronic reserves. In addition to books from their own collections, most libraries still place on reserve photocopies of journal articles and course-specific materials such as syllabi, problem sets, past exams, and lecture notes.

Such systems are fraught with chronic problems of workload management, timing, and supply. Since all courses in a specific term of instruction start at roughly the same time, nearly all requests for reserves come flooding into the library during a two or three week period. Faculty, busy with their own preparation for courses, are often late with reserve submissions; more than half of reserve reading lists submitted by faculty arrive at ARL libraries after the first day of classes. Students, the principal users of reserve collections, do not understand resulting service delays.

There can be other critical interruptions in paper-based service. When a reserve item is lost or mutilated, replacing it often takes several days, perhaps weeks. Furthermore, reserve materials are often esoteric; some items are simply not replaceable (out-of-print, original works). These very items are often the ones likely to disintegrate from overuse. Students have to visit the library to use reserves; when all copies of an item are in use, they have to wait. The physical condition of reserve materials can vary from sturdy and clear to flimsy and illegible; sometimes they simply fall apart during use. And if a reserve item is copyrighted, library staff are often responsible

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for assuring legal compliance by monitoring usage and securing written clearance from publishers or clearinghouses, often resulting in further delays in service.

Contrast this challenging and typically very labor-intensive situation with what is possible in today's most sophisticated electronic reserve capabilities. Though libraries still grapple with the problems inherent in paper-based reserve systems, currently available technology has made time and labor-saving alternatives available.

It is now possible for a faculty member to scan lecture notes into an image-based reserve system in the office, placing the document within a centralized hierarchical file structure for ease of access by students. If any scanned images have unwanted notes or blotches, they can be wiped off the copy electronically, and the physical condition of the original is less relevant to the usability of the electronic copy.

If necessary, copyright clearance can be secured, either by the faculty member or the library, through a system that automatically creates a permission request, complete with name and address of the publisher and a key permissions contact person.

Next a student can access the document from his dorm room or home on the World Wide Web if he remembers the instructor's name, the course number, or by browsing through all reserves available in the system. Once he secures the desired item, he can adjust the image for optimal use, magnifying print size or repositioning text to landscape orientation before printing it off. Moreover, "document" can mean a few pages of lecture notes, a fragment of a classmate's musical composition, an image from a professor's slide collection, or an entire PowerPoint presentation.

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Though no library appears presently to be using all of these capabilities at the same time, all are at the disposal of any site. And libraries are moving toward these applications with deliberate speed because they represent better service for both faculty and students.

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Critical Choices: Key Questions for Planners

IN PLANNING electronic reserves services, library managers have a number of questions to answer and choices to make:

Who will build the system?

There appear to be four general options here:

1) **Do-it-yourself.** Pioneering electronic reserve systems were usually built by libraries themselves, and this is still an option that many are choosing. With a fairly modest expense for the required technology, libraries can capture images, provide bibliographic access, and distribute electronic reserve materials in-house, through campus information systems, or through the Web. It is also possible to link to other Web sites through such systems. Programming has even been done by student employees—and very effectively. Such an approach, however, does require some in-house expertise, and the labor intensity of managing such a system on a day-to-day basis can be substantial. Moreover, one may be left in the lurch when the student who programmed the e-reserve system graduates.

2) **Buy an off-the-shelf electronic reserves system.** That is, a product that has been designed specifically as an electronic reserve system but might, at some point, be expanded to other applications (examples: the Nousoft system used by San Diego State University Library and the E-Res system used at Santa Clara University).

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3) **Buy an e-reserves module from your system provider.** That is, a capability that is just one application within a much larger automated system (examples: Innovative Interfaces and the Ameritech Horizon System).

4) **Work with a vendor** to develop an e-reserve capability in conjunction with a digital library effort (e.g., IBM or Xerox).

Who will do the work?

Will the library continue to manage virtually all electronic reserve operations, as many did with traditional reserves? Or will responsibility for electronic reserves be distributed? Current technology enables faculty to place their own reserve materials both on local systems or on the World Wide Web, potentially bypassing the library altogether. The range of possibilities for library involvement is broad indeed, from the library's merely providing students with links to faculty-constructed Web sites to a centralized system in which all electronic reserves are scanned, cataloged, and made accessible by the library.

Philosophically, some libraries argue that reserves have always been an instructional program function anyway and are most appropriately managed by the faculty themselves. Others see reserves as an opportunity to provide a highly valued, highly visible service to faculty and students, particularly when libraries are able to add the value of their information-organizing expertise.

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What access restrictions will be implemented?

A desire to remain in compliance with the 1976 Copyright Act has led libraries to restrict access to their systems in various ways. In some cases, students must come to the library and use dedicated terminals to access reserves. In others, reserves are available only on campus-wide information systems that must be accessed by password. Most libraries with electronic reserves systems appear to be moving toward Web access if they are not already providing it; electronic reserves available on Web sites can also be password protected.

How will copyright be handled?

Though all libraries are acutely aware of copyright issues in managing reserves systems, implementation has taken a number of forms. Some libraries have elected not to mount copyrighted materials on electronic reserve systems, deferring policy decisions, especially during pilot projects where the focus is on testing technical capabilities. Others have chosen automatically to secure copyright permission before mounting any copyrighted item on a reserve system. Still others have applied the same policies and practices to electronic reserves that they have applied to hard-copy reserves. Many libraries follow the model policy developed in 1982 by the American Library Association, which says that the first time a copyrighted item is placed on reserve, it is considered a fair use; for subsequent terms, the institution should seek permission. (See C&RL News 43(4) 1982: 127-131.)

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Of some concern to libraries is the fact that faculty are not always aware of copyright issues when they mount copyrighted materials on their own for student access. This is a potential problem for libraries when they provide links to faculty Web sites containing copyrighted materials.

For those libraries seeking help in gaining permission to place on reserve those materials for which permission is needed, several vendor-designed systems now contain sophisticated copyright management capabilities, including the ability to generate permission requests automatically. And, of course, the Copyright Clearance Center is an option.

What will it cost?

Cost is still a key question for most libraries, especially since parallel paper-based reserve systems still must be maintained. Choices are further complicated by the fact that inexpensive home-grown systems can have relatively high personnel costs attached to them.

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Innovations: Reports from the Field

FOLLOWING are reports of what several libraries and library product vendors are doing in the area of electronic reserves that might be of interest to readers of *Transforming Libraries*. The reports begin with accounts of what three pioneers in electronic reserves—San Diego State University Library, Duke University Library, and Northwestern University Library—are doing today.

San Diego State and Nousoft Plan to Move onto the Web

The San Diego State University (SDSU) Library is often considered the pioneer of electronic reserves. Among their initiatives were the first electronic reserve room and the first partnership with the campus bookstore as a means of securing copyright clearance. These are still hallmarks of their electronic reserves service.

University Librarian, Don Bosseau recalls that the library's first goal in bringing up an e-reserve system was to mount a technology project that would also help them solve public service problems in a high-volume reserve operation. Asking the Aztec Bookstore to handle copyright clearance was principally a strategy for enabling the library to focus on the technological challenges rather than the copyright issues. Testing the use of the Bookstore's permissions service was an important secondary strategy.

SDSU is currently using the Nousoft electronic reserve system, which it co-developed with Nousoft. The library hopes eventually to be able to send descriptive information about reserves directly to their public access catalog as they process each item for reserve. Thus a student will find reserve titles in

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the public catalog but will not, until further capabilities are developed, be able to move directly from the catalog citation to the reserve item itself.

At this time, the Nousoft system provides an in-house e-reserve capability only. By the end of 1996, they hope to have a World Wide Web capability.

SDSU staff report that the Nousoft system keeps valuable statistics on such activities as use of individual reserve items, activity in specific instructor files, and how much printing is done from the system.

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Duke University Library: High Volume Pioneer

With one of the earliest electronic reserve systems in an ARL library, the Duke University Library scans as many as 3500 pages a day into its electronic reserves system from camera-ready copy provided by the faculty. Currently, Duke is migrating from a Xerox-based system to a Web-based architecture serving Adobe Acrobat PDF files. One of the advantages of this technology is that Adobe Acrobat Reader enables the user to print pages from the electronic reserves system on their office or home printer.

Duke uses the public domain search engine, GLIMPSE, developed and distributed by the University of Arizona. According to Jesse Eversole, Chief Technical Officer, Perkins

Library, 95% of the software they are using in the new system is in the public domain.

Duke decided early on to scan everything submitted by the faculty into its e-reserve system, anticipating high user demand once the system had been implemented. Though access is available over the Web, use is carefully restricted to the Duke University community. Policies regarding inclusion and retention of items in the new system are being reviewed to insure copyright compliance.

Because of their high volume, Duke has been tracking cost-per-page for scanning (largely student labor), as well as the use of their Web servers. Though they have high hopes for their new system, they will track their costs carefully to determine whether the next generation system should be less labor-intensive.

Like so many libraries, Duke is moving toward a concept of electronic reserves as just another database available to their users.

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Northwestern Connects

Northwestern University Library started its electronic reserves service with a gopher-based system. In fall of 1995, they moved to a Web interface, using Adobe Acrobat to deliver documents. Adobe Capture has enabled them to handle the large files that were a difficult challenge during their first year.

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Like other pioneers in electronic reserves, Northwestern has built its system from "bits and pieces" of off-the-shelf software. Yet the system has some sophisticated capabilities. For example, students may access electronic reserves only if they have course-specific information, such as the instructor's name. At present, Northwestern is developing a new database management system that will offer significant improvements in the management of electronic reserves.

Their Web-based system enables the library to provide links to other Web resources, including faculty pages. One distinctive feature of Northwestern's service is their ability to link reserves to newsgroup discussions, enabling students to conduct discussions online with classmates. Ultimately, they, like most other libraries, are viewing electronic reserves as having greatly expandable capabilities—putting users in touch with the world of information beyond the reserve collection.

The library is currently working on improving file management, particularly developing a system for removing files that are no longer needed on electronic reserve. Another technical challenge is controlling access to e-reserve materials as Northwestern moves into more and more collaborative programs with other CIC (Committee on Institutional Cooperation) institutions. When planning joint degree programs with, for example, the University of Michigan, the institutions would like to provide access to e-reserves for all students enrolled on both campuses. Brian Nielsen of Northwestern portrays this as a technical problem close to solution.

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NEXT ARE REPORTS from five institutions that feature innovative approaches to providing electronic reserve services. Marist College's project with IBM is noteworthy for several reasons, including meticulous planning and evaluation processes. The Rochester Institute of Technology's pilot project is notable for accepting everything submitted by faculty for electronic reserve. Virginia Tech's approach features faculty independence in managing electronic reserves. The Washington Research Libraries Consortium has developed a system with OCLC that may have applications for other consortia. Colorado State University Library's system is notable for providing an easy connection from its OPAC to its e-reserve system.

Marist College and IBM Develop the Virtual Library

Since January 1995, Marist College has been working with IBM on the development of Marist's Virtual Library. The project started with Marist suggesting a Digital Library Project to IBM and garnering IBM support for the project. Subsequent development of the electronic reserve component of the Virtual Library has been very carefully planned, providing a model for other libraries.

The Marist electronic reserve capability is based on IBM's VisualInfo, a suite of products that constitutes the operating system for the prototype e-reserve system that has been developed.

Key to the planning process was the ongoing involvement of Marist faculty, students, librarians, computer center staff, and IBM staff. Planning began with focus groups inviting faculty

and student input into the development of the system's file structure. This input enabled planners to start development of the prototype electronic reserve system during the summer of 1995.

Planning has involved two important groups. The first is a design group composed of two faculty, three graduate students, two IBM staff, two librarians, and two computer center staff. Library Director, John McGinty has facilitated design group sessions every week for the last year. At the same time, eight faculty members were invited to participate in the pilot electronic reserves project. These eight, chosen for their willingness to take risks and their commitment to use the new system in their teaching, committed to weekly meetings, as well as to participation in a carefully planned assessment program.

The system developed by the design group automatically builds an electronic file for each course that is taught from the college's course registration system. The e-reserve system has three interfaces: one for students, one for faculty, and one for librarians. Thus faculty are able on their own to place reserves in their course files, further locating them in folders and sub-folders if they wish.

Using the 1982 ALA model policy, Marist is placing both copyrighted and non-copyrighted materials on electronic reserve. To track copyright compliance, they regularly sample electronic reserve submissions to assess whether they are in acceptable compliance. An exception to this approach is copyrighted sound or video materials, for which permissions are routinely requested before they are mounted as e-reserves.

When faculty mount reserves, they have the option of making them available only to their students or to the whole college

community. Even for material restricted in this way, however, the system has a browse capability that will gain access to all materials on reserve. A key issue for Marist faculty was the availability of syllabi on the system; some faculty simply did not want their teaching syllabi to be widely available, and system designers have tried to accommodate this need.

Careful, ongoing assessment is a hallmark of the Marist/IBM project. First, there is assessment of the project itself. For each course using the electronic reserve system, a written survey is administered (see <URL:http://arl.cni.org/transform/>), as well as a focus group session involving both faculty and students enrolled in the course.

Even more interesting, perhaps, is a comparative assessment that some of the pilot project faculty have volunteered to engage in. When a comparison assessment is conducted, one section of a course has access to electronic reserves and a second does not; in cases where there is not a second course section, comparison is made with a comparable course in which students do not have access to electronic reserves. One factor influencing the results of comparative assessments, however, is the student grapevine. Students in the comparison courses hear about the availability of e-reserves in other courses and figure out ways to gain access to this resource.

Marist's Department of Institutional Research has designed and administers the assessment program. One reaction from both faculty and students is that assessment activities take a great deal of time. At the same time, the design group has made substantive, beneficial changes in the electronic reserve system as a result of assessment findings. Both assessments are still being conducted, and Marist plans to publish results in 1997.

Though this report focuses on electronic reserves, Marist's Virtual Library, when fully available in fall of 1997, will encompass much more than reserves, providing, for example, access to digitized images from archival collections. Moreover, the Marist project is just one of many IBM Digital Library projects; other clients have included the Vatican Library, the Library of Congress, and Steven Spielberg's Dreamworks.

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The Rochester Institute of Technology Tests the Concept of Paperless Reserves

During its recent and extensive electronic reserves pilot project, the RIT Library was able to serve some courses in a nearly paperless mode. Since most courses taught at the school are technical, few whole books are placed on reserve. And, distance learning is a strong component of the academic program, making hard copy reserves difficult to access for many students. As a first step in a move toward a totally electronic environment, the library was able to serve some courses during the pilot without retaining paper copies of documents that are available on electronic reserve, a departure from practice that is standard for most electronic reserve operations.

All materials placed on reserve by the RIT Library are tightly password protected by default. If faculty want to make materials more widely available, they must explicitly ask for this on an item-by-item basis. This policy is built into the system at faculty request to protect research in progress from unwanted

scrutiny and also to aid in copyright compliance. At RIT, copyright compliance is the responsibility of the faculty.

The RIT Library has been active in marketing their electronic reserve services. A pilot project, begun in January of 1995, included volunteer faculty. Classes are held for faculty and heavy promotion is done through the campus distance learning department. Evaluation occurs principally through the gathering of anecdotal information.

The library is particularly proud of its pilot program, which is notable for its invitation to faculty to send the library anything in machine-readable form for mounting on the e-reserve system. The challenge then became to accommodate whatever was received. One faculty member submitted his PowerPoint presentation on digital photography as a strategy for accommodating students who were constantly asking him for access to this resource. In defining electronic reserves as broadly as possible, they are truly testing the capabilities of their system.

The next challenge for RIT is to assess how much staff time goes into providing electronic reserve services, particularly into proofreading copy before it is scanned into the system.

Several documents related to the RIT e-reserves service can be found at ARL Web site.

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Virginia Tech Partners with Faculty to Provide Electronic Reserves

The Library of the Virginia Polytechnic Institute and State University depends on a well-trained faculty as a key ingredient in providing electronic reserve services.

The University regularly offers Faculty Development Institutes designed to equip faculty with the skills they need to be technologically creative and effective in their teaching. During these sessions, Gail MacMillan, Director of the library's Scholarly Communication Project, trains faculty in how to mount and manage their own electronic reserves on the library's servers. Training includes discussion of copyright compliance issues.

Some faculty prefer to mount reserves on their own servers, but the library encourages them to register their Web sites with the library as well. Such an approach provides one-stop shopping for students who are taking several courses with online materials stored on a variety of servers around campus as well as in the electronic reserves system.

Copyright compliance is a faculty responsibility at Virginia Tech. Because access to the electronic reserves system is tightly restricted by Internet Protocol (IP) address, first-term electronic reserves of copyrighted materials are believed to fall under the 1982 ALA model policy. According to library policy, however, faculty must secure clearance for subsequent terms. Subsequent term use of reserve items is perhaps not as common at Virginia Tech as at other schools, since faculty often want to make only the very latest information available to their students. Thus, if a course is taught only every year or two, entire reserve

lists often need to be updated. To strengthen copyright compliance within the concept of the model policy, faculty must assert electronically that they understand copyright compliance every time they place an item on electronic reserves.

After the conclusion of each term, the library removes the class materials on electronic reserves. This is one approach to a growing problem with electronic reserve services: management of files. As anyone with hundreds of email messages stacked in their in-baskets knows, it is easy to ignore this aspect of file management in an electronic environment.

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Washington Research Libraries Consortium Tests OCLC Electronic Reserve Capability

The Washington Research Libraries Consortium, composed of seven libraries in the Washington, DC area, is running three pilot projects using OCLC's SiteSearch software. George Washington University and American University are piloting electronic reserves projects, while George Mason University is using the software for an archival project.

These electronic resources are available on the Web via OCLC's Web-Z and SiteSearch products, and they are fully integrated into WRLC's Shared Electronic Library Service. Eventually, the capability will exist for all sorts of electronic collections, including reserves and archives, to be shared among the partners. OCLC has recently introduced the imaging support package

that was developed during this two-year project. Taylor Surface of OCLC praises the partnership with WRLC: "Without their help, the product would have been much less than it is!"

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CSU Library Uses Documents-on-Demand within the Innovative Interfaces System

Colorado State has just brought up III's OPAC, Innopac. For electronic reserves, they are using Xerox's Documents-on-Demand. Together, these systems will provide a number of capabilities. Documents-on-Demand will enable them automatically to request copyright clearance from the Copyright Clearance Center, a capability that they will begin exploring in 1997. Innopac will enable users to select the reserves module from its front menu, and soon users will be able to move directly from Innopac to the World Wide Web.

Faculty, who currently must secure their own copyright clearance for all copyrighted materials placed on reserve, are able to place all reserve requests electronically. Though the library uses both press releases and Web announcements, they have not had to market e-reserve services aggressively; faculty are encouraging students to use electronic reserves because they see e-reserves as a way for students to be exposed painlessly to the electronic information environment.

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FOUR NON-LIBRARY organizations are noteworthy for efforts that they are making relative to electronic reserve services. Two are vendors of e-reserve products, one now available, the other still in development. The other two are the Canadian and U.S. copyright clearance agencies.

ERes Views Electronic Reserves from Faculty Perspective

ERes is a new electronic reserve system developed by Santa Clara University faculty member, Phil Kesten and an associate. Kesten's goal was a system that would make it easy for faculty to distribute electronically materials they themselves generate, such as lecture notes, and either distribute to students in class or place on library reserve. In Kesten's view, distribution of their own materials is an underestimated aspect of what faculty want from a reserve system.

The ERes system enables faculty, or their designees, to create their own pages on the Web. Materials in literally any format can be entered into the system, and links can be provided to other documents in any format, including, for example, Excel spreadsheets, as well as to other Web resources. Though the system can be managed centrally by a library, the library need not play a role at all. Full independence of faculty in using the system requires, of course, that they or their delegates have access to the appropriate technology and the skills to use it. At Santa Clara, this has not been a barrier. The system has been designed, says Kesten, so that most users of the system need little or no technical expertise to create and customize course pages, add documents to pages, and view documents.

In addition to the standard "account level" access that most faculty get, the system features three levels of administrative access:

1) managers have full access to the entire system; 2) assistants are able to place materials on reserve; 3) helpers (typically student workers) are able to add documents to folders, etc. These levels can be customized by the vendor to meet specific customer needs.

Because materials are on the Web, optional password protection is available to prevent access by those outside the institution's community.

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UMI's New System Will Focus on Content

According to UMI's Dan Arbour, the company is developing an electronic reserve product that will be based on their Pro-Quest Direct Online System, which can currently build customized collections from content that UMI has the rights to access (for example, journal articles indexed in ABI/Inform.) At the system's core is the capability to create a "folder" of reserve readings, much as one might be created in a hard-copy reserve collection.

Thus a faculty member will easily be able to put on electronic reserve several articles in UMI-accessible databases, and royalty fees will be automatically included in the fees charged by UMI to access the documents. Moreover, much of the labor intensity associated with many electronic reserves operations (for example, scanning) will be bypassed.

At this point, UMI must add to Pro-Quest's features the ability to put up local resources as well, for example, lecture notes and

homework assignments. They hope to introduce the product in beta test form at the end of 1997.

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The CCC Develops New Electronic Reserves Permission Service

The U.S. Copyright Clearance Center was created in 1978 at the suggestion of Congress as a not-for-profit collective licensing body. The center's repertoire of more than two million titles currently expands at the rate of nearly 5,000 per month. More than 9,000 rightsholders now use the CCC for transactional as well as collective rights distribution.

Subscribers to ARL's Electronic Reserves Listserv already know of the CCC's intention to develop a service related to electronic reserves. This capability, which is still in initial design stages, will not be a full electronic reserve system but will be designed to enable users to handle most permission requests and royalty payments with ease. According to Dave Davis of the CCC, the service will look like a blend of the services already offered to interlibrary loan and document delivery operations and their academic permissions service, currently used by educational institutions to get permission to include materials in coursepacks. It is unclear how comprehensive the service can be because to date, publishers have been reluctant to authorize CCC to handle permissions for electronic versions of copyrighted material.

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Electronic Reserves: the Future

SEVERAL TRENDS are notable among these reports. Jeff Rosedale of the Lehmann Social Sciences Library, Columbia University, summarizes some of these trends in a paper soon to be published by ARL:

- As students and faculty expect more convenient access to information, more libraries will bring up electronic reserve systems and existing systems will grow at increasing rates. Diversity of approach will characterize this growth; there is simply no single way to offer electronic reserves services.

- Faculty will probably take on more responsibility for mounting and managing electronic reserves as the technology becomes more accessible to them, though many faculty will continue to want the library to provide electronic reserves services for them. Libraries will increasingly provide central file management and access capabilities, technical training, and general advice on copyright compliance.

- Publishers and information brokers (see UMI report above) will provide more and more direct electronic access to content, incorporating mechanisms for royalty payments that will be increasingly easy for both libraries and faculty to use.

- National digital archives may be created to which libraries can contribute scanned images that can then be drawn on by other libraries.

Other Trends in the Making

THE CONCEPT of traditional "reserves" and its associations with the venerable hard copy reserve rooms of the past may have a short future. Reserves are, after all, merely a temporary collection within a collection. When the seams among these parts disappear—when students are simply able to access information that is required or recommended by instructors, wherever it resides—reserve services as we know them are likely to disappear as well. This trend is already seen in developments such as Marist's Virtual Library, in which electronic reserves will be a small part of the electronic library that they are designing. However, no single standard is likely to emerge soon; there will continue to be a tremendous diversity of approaches.

Electronic reserve systems with more and more sophisticated features will continue to appear on the market. Already, many libraries are migrating to Web-based systems, a much easier strategy for providing access beyond space and time barriers. And easier methods of securing copyright clearance are certain to be popular with many libraries.

Now that libraries are solving many of the technical problems associated with mounting electronic reserve systems, they will turn their attention to evaluation of both service effectiveness and costs. Are home-grown systems really less expensive than commercially available systems? What savings are to be gained by placing more of the responsibility for e-reserves management with the faculty?

Many good minds are at work on the copyright compliance questions associated with electronic reserves. The goal continues to be to work within the spirit of the 1976 Copyright Act to balance the rights and economic interests of authors and

publishers with the advancement of scholarship. Once everyone gets a good feel for the issues and true costs, there is every hope that the balance achieved in the print environment can also be found in the digital environment. In the meantime, libraries will continue to rely on the fair use doctrine as described in section 107 of the copyright law as the foundation for implementing electronic reserves services.

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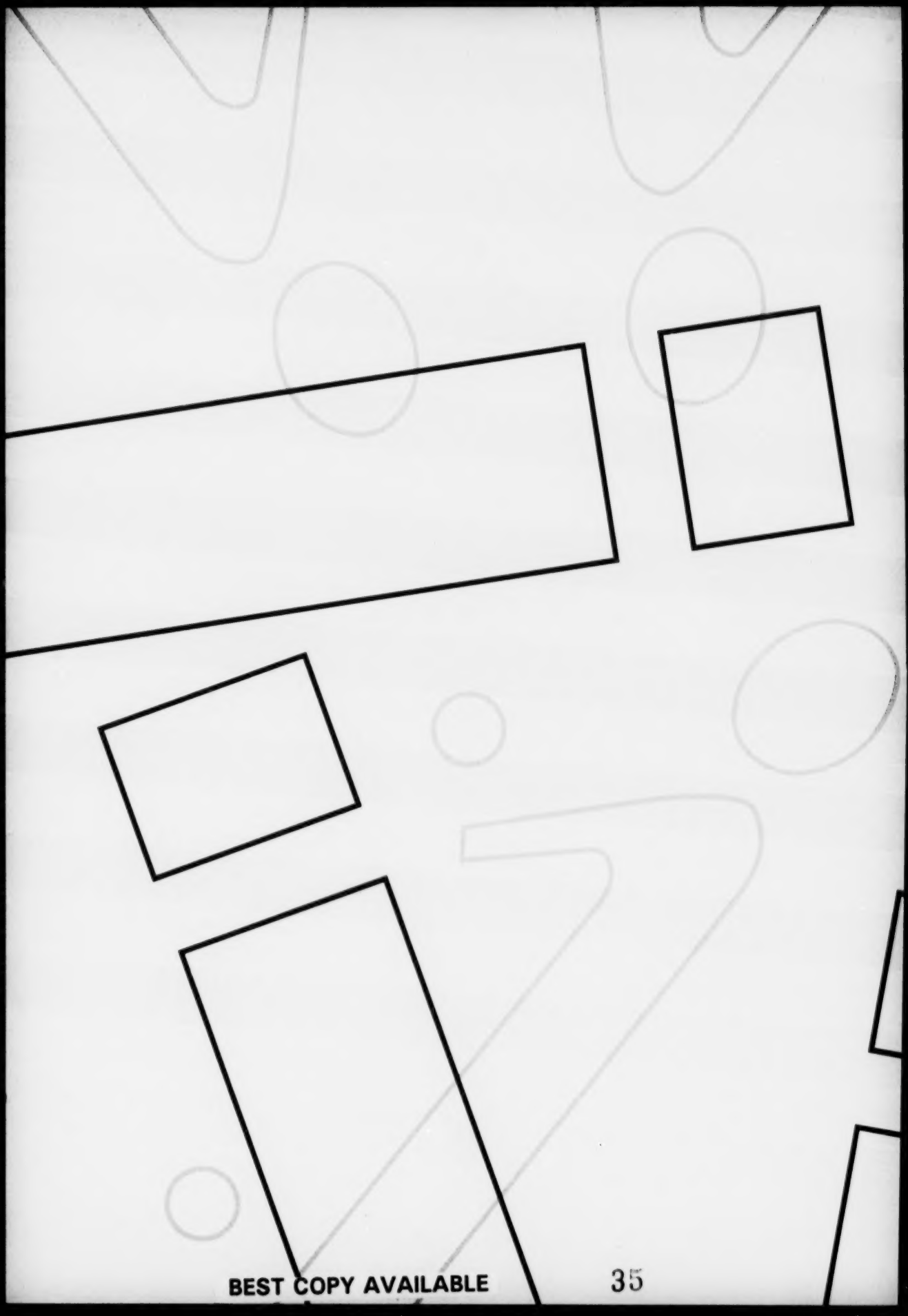

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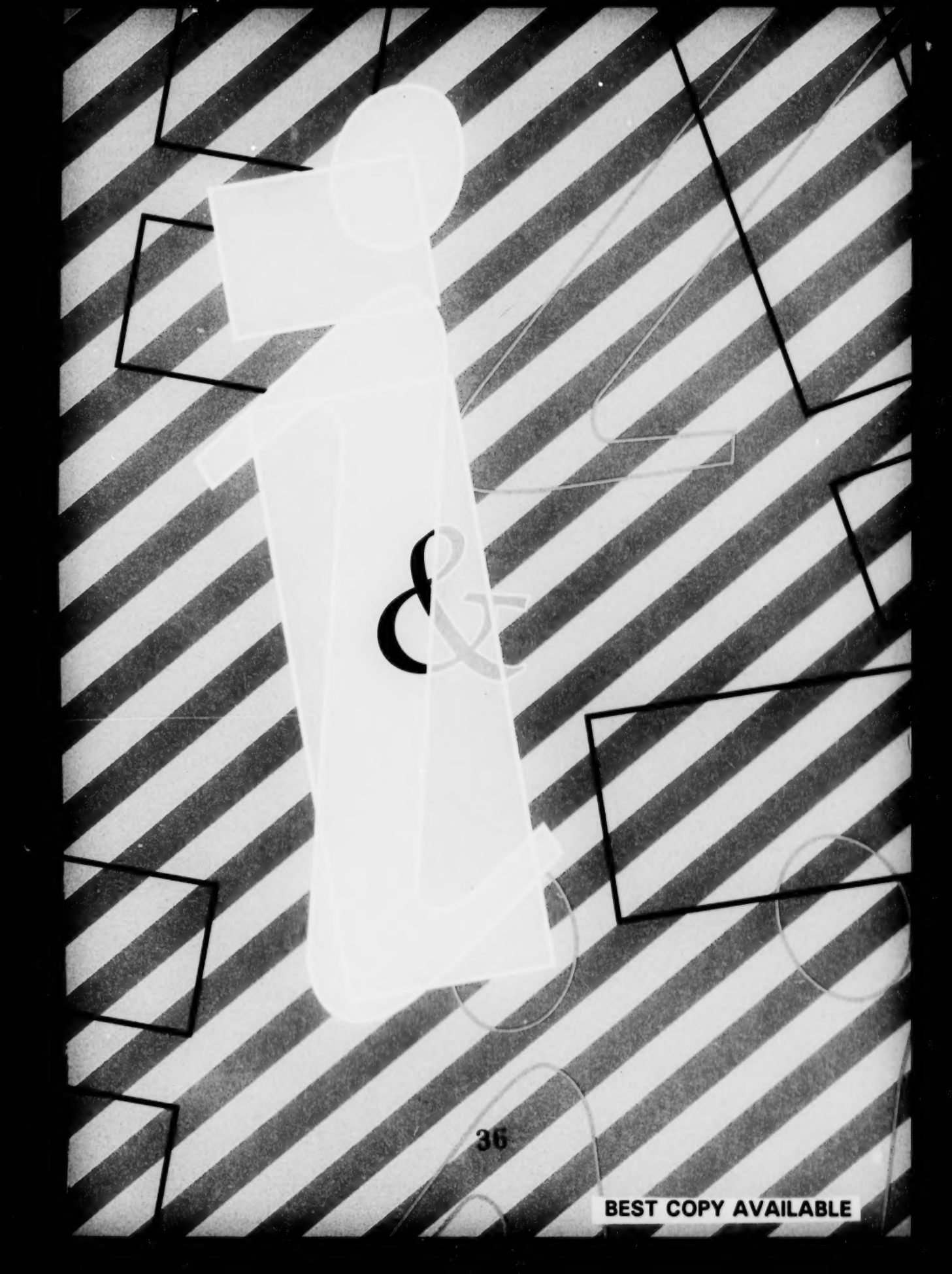

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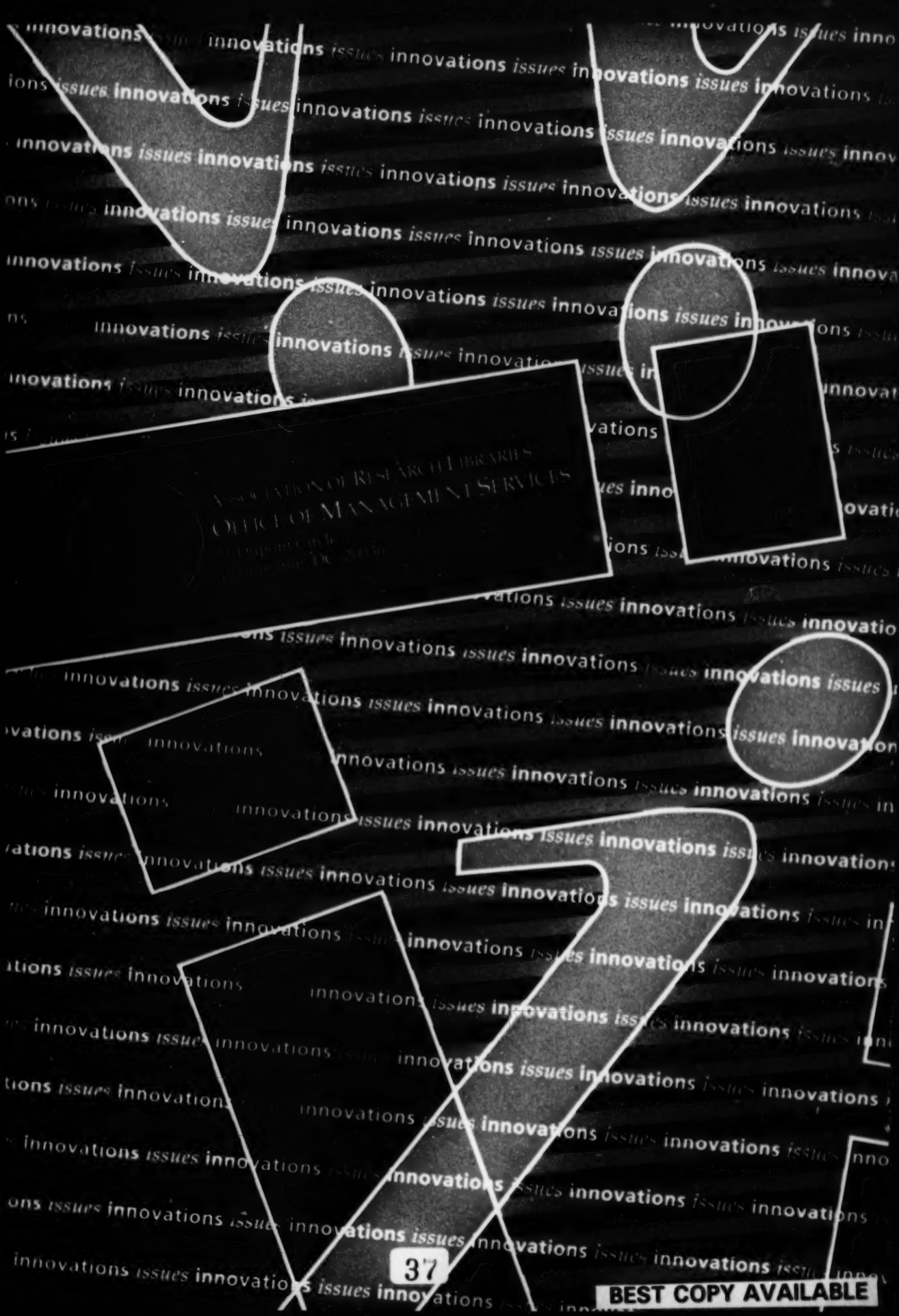

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